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## EPIDEMIOLOGY OF SUDDEN INFANT DEATH IN NORTH CAROLINA:

### *Do Cases Tend to Cluster?*

In the last decade, sudden infant death syndrome (SIDS) has become widely recognized as the leading category of postneonatal deaths, that is, deaths to children 28 days to one year of age. It occurs at a rate of two to three per 1,000 live births (3,6,9,11,15) and is responsible for approximately 160 to 180 deaths each year in North Carolina.

Many theories have been proposed to explain the etiology of SIDS. Proposed causative agents, ranging from viral agents and infectious diseases to simple climactic changes, have been listed by Beckwith (1).

Several epidemiologic studies have suggested that SIDS deaths tend to cluster, especially seasonally (1,5-7,18). Beyond this, no known published reports in the United States have shown statistically whether SIDS deaths actually do cluster in certain time and space dimensions. In fact, a study by Froggatt, et al. (6) in Northern Ireland is the only known published report to statistically examine the question of clustering, and that study was done before a specific SIDS code was developed in 1974.

With the present availability of SIDS data by county, the question of clustering of SIDS deaths in North Carolina is addressed. In particular, the purpose of this report is threefold: (a) to describe the epidemiology of SIDS cases occurring in North Carolina, (b) to test the null hypothesis that SIDS occur randomly throughout the state, that is, that no apparent clustering of SIDS exists in North Carolina and (c) to describe the time and space parameters which adequately portray the clusters if the null hypothesis is rejected.

A second component of this study involves examining SIDS cases on the Medical Examiner's (ME) files and the Vital Statistics (VS) files. The purpose here is to determine the extent to which the two files disagree and to provide explanations for the differences. This component is important because results provide the basis for determining which record system to use.

### Ascertainment of SIDS Cases

The Office of the Chief Medical Examiner is charged with investigating and certifying all deaths due to violent, unusual or unidentified causes. These investigations are carried out through a statewide system of regional pathologists and licensed county medical examiners. In the case of apparent SIDS, an autopsy is required to document that no specific underlying cause of death can be determined.

Through normal death registration channels, the Vital Records Branch of the Division of Health Services receives death certificates for SIDS cases. Almost always, these should be the same as cases reported to the Medical Examiner System; however, discrepancies were found when infant deaths on the two computerized files were matched, using 1974 and 1977 as test years. Discrepancies involved the following: